FYI
DHEC's Office of Solid Waste Reduction and Recycling
For Your Information...

Recycling 101

What is recycling?

You already know the answer to that one. You collect your plastic bottles, aluminum cans, newspapers and other recyclables, drop them in the recycling bin and take the bin to the curb for pickup or to the drop-off center. Well, that's not the entire story.

Recycling is the collection, separation, processing and marketing of materials so they can be used again. In other words, making a new aluminum can out of one that was recycled. Or making a new newspaper out of newsprint that was recycled. You get the idea. But there is more to recycling. Composting is recycling - nature's way of recycling. Recycling is buying recycled products. In fact, you are not really recycling if you are not buying recycled.

Why recycle?

- **Recyclables have value.** The materials collected in recycling programs are not garbage or waste – they are valuable commodities that represent an essential component of today's marketplace. Recycling turns those materials into valuable resources. Recycled plastic soft drink bottles can be made into T-shirts, carpeting and filling for ski jackets. A recycled aluminum can can be made into a new aluminum can and be back on the shelf within six weeks. Recycled glass, which can be recycled forever, can be made into new glass. Recycled paper can be made into new paper, pencils and other products.

- **Recycling saves natural resources** like minerals, water and timber. By decreasing the need to extract and process virgin materials, **recycling helps reduce or eliminate pollution** associated with the first two stages of a product's development: material extraction and processing.

- **Recycling saves energy.** Studies show that less energy is needed to manufacture products from recovered materials than virgin materials. Making a new aluminum can from a recycled aluminum can saves 95 percent of the energy used to make a new aluminum can from virgin natural resources. The energy saved from recycling one aluminum can will run a computer for three hours. The energy saved from recycling one glass bottle will run a 100-watt light bulb for four hours. The energy saved from recycling seven soup cans will save enough energy to run a 60-watt light bulb for 26 hours. Each year, steel recycling saves 76 percent of the energy needed to make steel from iron ore. The recycling of this steel saves the energy equivalent of providing electrical power to about 20 percent of the nation's households.

- **Recycling reduces greenhouse gas emissions.** In reducing air and water pollution and saving energy, recycling reduces emissions of carbon dioxide, methane, nitrous oxide and chlorofluorocarbons that may contribute to global climate change. Recycling helps reduce greenhouse gas emissions by (1) decreasing the energy needed to make products from virgin materials (and thereby reducing the burning of fossil fuels), (2) reducing emissions from landfills and incinerators, which are the major source of methane gas emissions and (3) slowing the harvest of trees, thereby maintaining the carbon dioxide storage benefit provided by trees.

- **Recycling reduces the need to build landfills or incinerators.** Given that, this is another way that recycling helps protect the environment.

- **Recycling generates significant economic benefits.** The U.S. recycling industry consists of about 56,000 establishments that employ more than 1.1 million people, generate an annual payroll of nearly $37 billion and gross more than $236 billion in annual revenues according to the U.S. Recycling Economic Information (REI) Study. The study also showed the impact of recycling on other support industries such as accounting firms and office supply companies. About 1.4 million jobs are "indirectly" supported by the recycling industry. These jobs have a payroll of about $52 billion and produce about $173 billion in receipts. Spending by the employees of the recycling industry leads to another 1.5 million jobs with a payroll of about $41 billion and produces receipts of about $146 billion. The recycling industry also generates about $12.9 billion in federal, state and local tax revenues with about 80 percent going to federal and state government. In South Carolina, a recent report showed that recycling

companies created more than 1,000 jobs and invested more than $241 million in new construction and equipment in 2000 according to the Recycling Market Development Advisory Council at the S.C. Department of Commerce.

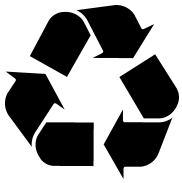
- **Recycling may save money.** There is always an environmental and economic cost to any type of solid waste management, but recycling may be the least expensive approach with all things considered. Madison, Wisconsin and Mesa, Arizona, for example, have saved money with their recycling programs, according to the U.S. Environmental Protection Agency (U.S. EPA). Recycling one ton of materials in a typical curbside program saves at least $265 in electricity, petroleum, natural gas and coal even after accounting for the energy used to collect and transport the materials, according to another recent study.

- **Recycling stimulates the development of green technology.** Recycling allows for and encourages the development of more environmentally and economically friendly products. Examples include carpet and textiles made from recycled plastic soft drink bottles, lumber made from recycled plastic milk jugs and detergent bottles, road paving using rubberized asphalt from waste tires, and cars made with more and more recycled steel and plastic.

- **Recycling works.** Recycling is one of the nation's top environmental success stories of the past 10-plus years. Nearly 70 million tons of materials were recycled from the nation's municipal solid waste stream in 2000 according to the U.S. EPA. That's more than double the total of materials recycled in 1990 and more than 12 times the amount of materials recycled in 1960.

The Recycling Process

You have seen the chasing arrows. OK, just what does that recycling symbol mean? Each arrow represents one step in the three-step process that completes the recycling loop: (1) collection and processing (2) manufacturing and (3) buying recycled products.



The first step is collection and processing. Collecting recyclables varies from community to community, but nationally there are four primary methods of collection: curbside pickup, drop-off centers, buy-back centers (where consumers sell their recyclables, e.g. aluminum cans) and deposit/refund programs (e.g. a deposit or fee is placed on the container and the money is returned to the consumer when the container is returned for recycling). Regardless of the method of collection, the next phase of the process is usually the same. Recyclables are sent to a materials recovery facility (MRF) to be sorted and prepared for market. Recyclables are bought and sold just like any other commodity and prices for the materials change based on the market.

The second step is manufacturing – that's where recyclables are manufactured into new products and shipped to stores to be sold. There are thousands of products made totally or partially from recycled materials.

The third step is buying recycled. Buying recycled products completes the loop. Buying recycled content products results in manufacturers making more recycled content products and ensures the success of your local recycling process.

Who makes this process work?

R-E-C-Y-C-L-E. It begins with you and me.

Government, businesses, schools and consumers each play an important role in making recycling work. The role can vary from participating in collection programs, to making recycled content products and to buying those products.

Want more information?

If you want to recycle, but are not sure of what is recycled, where and how, please call your recycling coordinator (your local solid waste management or public works department) or call DHEC's Office of Solid Waste Reduction and Recycling at **1-800-768-7348**.

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